

**COMMUNITY PARTICIPATION IN WATER SUPPLY PROJECTS IN
TUMBI WARD-KIBAHA TOWN DISTRICT COUNCIL**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN
MONITORING AND EVALUATION OF THE OPEN UNIVERSITY OF
TANZANIA**

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CERTIFICATION

The undersigned certifies that she has read and hereby recommends for acceptance by Open University of Tanzania a dissertation entitled, "Community Participation in Water Supply Projects in+ Tumbi Ward; Kibaha Town District Council", in partial fulfillment of the requirements for the award of Degree of Masters of Arts in Monitoring and Evaluation (MA M&E).

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Date

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DECLARATION

I, Kilave Lloyd Atenaka, do hereby declare that this study is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

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Signature

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Date

DEDICATION

I dedicate this work to my lovely husband Timotheo Gilbert Mwakifulefule, my sweet great parents (Mr. and Mrs. Lloyd Nathan Timothy), my beautiful sisters (Miriam Lloyd, Doreen Lloyd and Irene Lloyd) and to all my fellow student.

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Thanks a lot.

ABSTRACT

The main objective of the study was to assess community participation in water supply projects, specifically in Tumbi ward in Kibaha Town District Council. To meet objectives of the study, the study involved 96 respondents who included 48 head of households with water supply, 40 head of households with no water supply, 1 ward executive officer, 1 village executive officer, 6 members of water project committee. The study used primary and secondary data whereby structured interviews, observation, focus group discussion, and documentary review were used to collect data. The study findings indicated that the level of community participation in Tumbi water project was high in the implementation stage. This is because community members provided labour and financial resources while at designing, monitoring and evaluation stage the community participation was low. Also, the results indicated that community participation and availability of sustainability stakeholders such as environmental protection, pressure groups, human rights groups or non-governmental organizations are the fundamental factors for sustainability of the water project. Furthermore, the findings showed that water project committees perform their responsibilities very good hence achieved sustainability of the project. The study recommends that local government should involve community members in the designing of water supply projects, as well as monitoring and evaluation of the water supply project. Also, government should encourage donors, non-government organizations, and other stakeholders to be involved in water supply projects. Lastly, village governments should employ top-down and bottom-up approaches of community participation in the management of water supply project.

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CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter provides information about background of the problem, statement of the problem, significance of the study and research objectives.

1.2 Background of the Problem

Community usually refers to a social unit larger than a small village that shares common values. The term can also refer to the national community or international community, and in biology, a community is a group of interacting living organisms sharing a populated environment. Confused as it may be, community is vital for humans (Christensen *et al.*, 2003). Since the advent of the internet, the concept of community has less geographical limitation, as people can now gather virtually in an online community and share common interests regardless of physical location. Prior to the internet, virtual communities like social or academic organizations are far more limited by the constraints of available communication and transportation technologies.

Participation is the informed, autonomous and meaningful involvement of a community in influencing decision making and action. It captures five components which are: informed, meaningful, influence, decision-making and action. At the heart of the local planning process participation is the process during which individuals, groups and organizations are consulted about or have the opportunity to become actively involved in a project or program of activity. This study focused most on interactive participation as a pillar for participation which allows people to

participate in joint analysis of the opportunities in their local area. This takes control over local decisions, and so people have a stake in maintaining the project after implementation (Kamanzi, 2007).

Community participation (CP) occurs when a community organizes itself and takes responsibility for managing its problems. Taking responsibility includes identifying the problems, developing actions, putting them into place, and following through. Therefore, community participation in the context of projects is nothing but a stage where the community is involved to identify problems, develop action plans, implements the best plan and monitors the solution (Danny *et al.*, 2004). Community participation and empowerment are the main factors which can affect the processes of community development. It is important to note that since this study focused on people's participation process in community development projects, it is beyond the scope of the study to generate, enrich or to improve the meaning and definition of community deduced from the study.

However, since the word community is prefixed to other words, such as development, participation and empowerment to become community development, community participation and community empowerment, therefore it is worth examining some of the common definitions used, which are particularly relevant to this study. Community participation and empowerment are considered necessary to get community support for community development projects (Cole, 2007). Community participation refers to peoples' engagement in activities within the community. It plays an essential and long-standing role in promoting quality of life (Putnam, 2000). Nearly half of the earth's population does not have enough water to

support human needs (UN-HABITAT, 2003). Regardless of strategies made over the past years, yet insufficient and poor water supply remains a serious problem in Africa especially sub-Saharan African countries.

The problem looks to be much more serious in rural areas where most of the people are not provided with water services. Rural water development projects are not new in Tanzania, since they have attracted the attention, albeit varied, of both the colonial and post colonial administrations. For instance, during the independence period in 1960s the water policy of the government of Tanzania (GOT) was 'free, clean and safe water for all'; the objective being to provide clean and safe water to all villages in rural Tanzania by the year 2000. However, the policy failed very badly because countless costs were borne by government for maintenance and rehabilitation without involvement of community (MOW, 1997).

1.3 Statement of the Problem

Despite the government's policies and strategies over the last decade to make sure communities are well involve in domestic water supply projects, especially rural community, still communities are not well involved in domestic water supply projects. According to Bagaka (2008) the problem of community participation in water supply projects is still dominant in Tanzania. Furthermore, worries have been raised as to whether the community participation in water supply projects has met its stated objectives of all water supply projects achieving sustainability in Tanzania (James & Mdoe, 2009). Even though quite a lot of research studies have been conducted on community participation in water supply projects in Tanzania (Felix, 2004; Elizabeth, 2008; William, 2008), few of these studies attempt to provide

empirical evidence related to the effectiveness of water committees in running water supply projects, sustainability and technical capabilities of the projects after implementation and donors' withdrawal (Bagaka, 2008; James & Mdoe, 2009; Nkonjera, 2012; Gwamaka, 2017). Therefore, it was necessary to carry out this study to assess the community participation in water supply project in Tumbi ward in Kibaha Town District Council.

1.4 Research Objectives

1.4.1 General Objective

The general objective was to assess community participation in water supply project in Tumbi ward in Kibaha Town District Council.

1.4.2 Specific Objectives

- i. To examine the sustainability of the project after donors' withdrawal.
- ii. To assess the effectiveness of water committee in running the water supply project.
- iii. To examine technical capabilities of the project after donors' withdrawal.

1.5 Research Questions

- i. What is the sustainability of the project after donors' withdrawal?
- ii. What is the effectiveness of water committee in running the water supply project?
- iii. What are the technical capabilities of the project after donors' withdrawal?

1.6 Significance of the Study

The study will help the government to launch the community organizations which

will make sure effective management of water projects. Also, the results of the study will be used by the government for sustainable water projects. The study findings will help policy makers, decision makers and planners in policy making process and implementing issue of community participation in water projects so as to ensure the sustainability of water projects. The study also will assist the development stakeholders in Kibaha District in choosing and developing specific plans for improving community participation in water projects.

1.7 Limitation of the Study

The study of community participation in water supply projects had great significance to the government, stakeholders and community. Due to the nature of the study, most respondents such as water engineer in Kibaha, technicians, Ward Executive Officers and community members were not easily accessed due to their daily responsibilities. Also, respondents were not comfortable to provide information on spot on how they were involved in water projects.

1.8 Delimitation of the Study

Suitable time to meet them (morning or evening) was arranged and respondents were convinced to participate fully. The researcher distributed questionnaires to the respondents then questionnaires were collected on time arranged. Self-administered questionnaires were used to collect information to community members so that they could be free and confident to provide information. But to ward executive officers and technicians interviews were conducted.

1.9 Organization of the Study

This study is divided into five chapters. Chapter one contains background of the

research, problem statement, objectives of the study, significance of the study, limitation and delimitations of the study. Chapter two includes definition of concepts, review of the theories and studies of community participation, research gap and conceptual framework. Chapter three involves research design, area of the study, target population, sample and sampling procedures, types of data, methods of data collection, data analysis and presentation plan, validity and reliability of data collection tools. Chapter four entails the data analysis, presentation of the findings, and discussion based on the objectives of the study. Chapter five presents the summary of the study, conclusion of the study, recommendations made due to study findings, as well as recommendation for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter deals with definition of key concepts, principles, policies and procedures review and empirical review of the related literature.

2.2 Definition of Key Concepts

2.2.1 Participation

One or more processes in which an individual (or group) takes part on specific decision making and action, and over which they may exercise specific controls. It is often used to refer specifically to the process in which primary stakeholders take an active part in planning and decision making (Muchiri, 2014). This often has the intention of sharing control over the resources generated and responsibility for their future use.

2.2.2 Partner

The organization in the project country with which the funding agency collaborates to achieve mutually agreed upon objectives. Partners may include host country government, local and international NGOs, universities and professionals (Njoh, 2003).

2.2.3 Performance

According to Annis (2006), performance is the degree to which a development intervention or a development partner operates according to specific criteria/standards/guidelines or achieved results in accordance with stated

goals/plans.

2.2.4 Planning System

Is a system including the main aspects such as strategic planning, annual planning and budgeting and monthly activities scheduling (Muchiri, 2014).

2.2.5 Stakeholder

An agency, organization, group or individuals who has a direct or indirect interest in the project/programme, or who affects or is affected positively by the implementation and outcome of it (Paul, 2012).

2.2.6 Sustainability

Abrams (1998) defined sustainability as whether or not something continues to work overtime. Sustainability includes some scopes such as institutional, social, technical, environmental and financial.

2.3 Theoretical Review

The study employed a number of theories which relate to community participation in the water sector namely top-down approach theory, down-top approach theory, the stakeholder theory and diffusion on innovation theory.

2.3.1 Top-down Approach Theory

This theory was written in 1970 by the psychologist Richard Gregory. Gregory stated that best guess or hypothesis is a constructive process that depends on top-down processing. A top-down approach theory is where an executive decision maker or other top person makes the decisions of how something should be done. This

decision is disseminated under their authority to lower levels in the hierarchy. For example, when wanting to supply water in the village, village chairman might decide that the project is needed, and then a leader uses a planned approach to drive the water supply project down to the front officers. Positive aspects of the theory include its efficiency and superb overview of higher levels. Also, external effects can be internalized. On the negative side, if water projects are observed to be enforced from above, it can be difficult for lower levels to accept them.

2.3.2 Down-top Approach Theory

In criticizing Gregory thoughts, Psychologist James Gibson wrote down-top approach theory in 1980. He argued that that best guess or hypothesis is not constructive process but it is a direct process. A down-top approach to changes is one that works from the grassroots from a large number of people working together, causing a decision to arise from their joint involvement. A decision by a number of activists, students, or victims of some incident to take action is a down-top decision.

A down-top approach theory can be thought of as an incremental change approach that represents an emergent process cultivated and upheld primarily by frontline workers. For example, when wanting to supply water in the village, villagers will decide if that the project is needed or not, and then villagers use a planned approach to drive the water supply project up to the front officers, then to the village chairman. A down-top approach allows for more experimentation and a better feeling for what is needed at the bottom. Other evidence suggests that there is a third combination approach to change.

The top-down and down-top approach theories are summarized by Ellie et al., (2009) as follows;

Table 2.1: White's Forms of Community Participation

Form (Level of Participation)	Top-Down (The government or associated agencies)	Bottom-Up (For individuals and communities)	Function (The participation for)
Nominal	Legitimizing	Inclusion	Display
Instrumental	Efficiency	Cost	Means
Representative	Sustainability	Leverage	Voice
Transformative	Empowerment	Empowerment	Means/End

Source: Ellie et al., (2009).

2.3.3 The Stakeholder Theory

The theory was originally detailed by Ian Mitroff in his book "Stakeholders of the Organizational Mind", published in 1983 in San Francisco. It is a theory of organizational management and business ethics that accounts for multiple constituencies impacted by business entities like employees, suppliers, local communities, creditors, and others. It addresses morals and values in managing an organization, such as those related to corporate social responsibility, market economy and social contract theory.

According to Mitroff (1983), the stakeholder theory portrays that all persons or groups have full legitimate power and interests to participate in an enterprise or project. This theory insists on the implication of the link between the top management of a project with community which must fully be encouraged in identifying water project and plan the projects by themselves for implementation. This implies that water project managers should appreciate that the success of water

projects to be prejudiced to the highest degree of participation of all stakeholders.

2.3.4 Diffusion on Innovation Theory

The theory was developed by a Professor of communication studies Everett Rogers in his book of "Diffusion of Innovations" in 1962. He argues that diffusion is the process by which an innovation is communicated over time among the participants in a social system. It originated in communication to explain how, overtime and idea gains momentum and diffuses (spreads) through a specific population or social system. The theory has four main elements influencing the spread of a new idea; the innovation itself, communication channels, time, and a social system. This process relies heavily on human capital.

The innovation must be widely adopted in order to self-sustain. Within the rate of adoption, there is a point at which an innovation reaches critical mass. DOI theory believes that different kinds of people possess different skills and experiences of innovations. If such skills and experiences are shared through certain activities within a particular social system, they can help to create ground for project sustainability. This view is in line with water project sharing of ideas for exchanging experiences among people of different culture, background and experiences patterning to water projects that are established. In order to achieve water projects sustainability, it requires possessing different degrees of skills and willingness to adopt innovations, which is possible only when top management collaborates with down top management in bringing bare ideas for the projects such as water projects.

2.4 Empirical Review

This section briefly discusses a review of researches and other documents relevant to

this study.

2.4.1 Sustainability of Water Supply Projects

In 2008 in Mauritius, Baboon (year) conducted a research on citizen participation in policy making and implementation with reference to local government. The study used survey questionnaire, interview, direct observation and documents review as methods of gathering information. The results of the study showed that citizen participation in policy making and implementation in local government is regarded to be responsiveness of public needs. Citizen participation at local levels is affected by the mechanism of control.

Though the study found that the citizen participation at local government is not satisfactory, it elaborates the fundamental factors that can influence the improvement of citizen participation in the policy making and implementation in local government. Those factors are: effective information spreading, provision of civic education, effective communication and publicity of public hearing. Another study was conducted in Uganda by Eid (2010) concerning community participation and water projects sustainability. In his study, he asked 36 project management experts about factors influencing community participation on sustainable water development projects.

The study found that management provides little opportunity to community to participate in project initiation stage, project planning stage, project implementation stage, project monitoring stage, and project closure stage of the project management process. The study concluded that the ideas of community participation in water projects sustainability are not yet fully involved in the project management

processes and therefore it is just partial inclusive.

Muchiri (2014) carried out a study on the community involvement in the decision making in undertaking water projects in Kenya. The study found that government policies hindered factors that influence sustainability of water projects. This means that water projects fail due to little or unsatisfactory community involvement in water projects. It is also a lesson that project sustainability is the function of holistic community involvement in decision making in undertaking the projects.

Furthermore, the study provides other factors that hindered water project sustainability which are; lack of sustainability stakeholders such as environmental protection, pressure groups, human rights groups or non-governmental organizations in the projects. Also, in 2015 Project Management Institute (PMI) conducted study concerning community participation in water project Pennsylvania. The study found that in water supply project communications in management is a fundamental factor for failure of water projects. Also, PMI recommends that the project manager should be able to balance the competing demands of scope, time, cost, quality, resources and risk. Furthermore, the study fails to identify social and environmental aspects as important factors in project success. This indicates that community participation is not considered in practice and approves that many water projects are not sustainable due to consideration of only few people in a project.

Further research was conducted by Silvius et al. (2017) to recognize the efforts taken on community involvement in order to attain project sustainability. The research found that government and non-government organizations engaged communities in communal efforts as a mechanism for mobilizing community resources such as water

and labor.

2.4.2 The Effectiveness of Water Committees in Running Water Supply Project

The water committee has a significant role to play in a running water supply project. For the aim of running water supply project, the water committee may be including the local government, leading citizens, religious leaders, and individuals. The local government may be voted for or appointive but, in any case, it has authority over the matters which affect the community. While it is true that in many countries public improvements for rural towns and villages are decided on a higher level and those decisions are handed down, a much more successful way is to obtain full and complete co-operation from local governments directly (Silvius et al., 2017).

In the case of a water supply project, the task of obtaining the necessary local co-operation and participation in the development of the project should be assigned to an interested and responsible official, preferably the engineer in charge of the project (Silvius et al., 2017). Almost without fail, local governments welcome such gestures and usually volunteer more support than their resources allow. The extent of the material support must always be seriously judged and evaluated. The important thing at the beginning of the water project is to get the official agreement and cooperation of the community concerned.

Many famous community members may not be members of the water committee but, at the same time, they may bring even more influence to support the success of the proposed water supply project than does the official administration (PMI, 2004). It is not uncommon to find that water committee leaders are outside the government. Such persons should be brought into the planning of the scheme (PMI, 2004). They

need to understand and support the project and therefore must be approached with diplomacy (Edmund, 1996).

2.4.3 Technical Capabilities of Water Supply Project

Innovative technologies are essential to overcome barriers to water supply projects. Technical capability includes the development and application of new technologies, the technical skills needed to effectively construct, operate and manage a technical solution; the translation of information regarding technologies to promote informed decision-making when implementing a technical solution; the availability and accessibility of spare parts (Chala, 2011). However, technology providers need a better understanding of local conditions and policies.

There is a need for organizations that bring together many disciplines, such as the natural sciences, public health, engineering and the social sciences. Integration and interaction between organizations and different sectors of the community, at decision-making, policymaking, implementing, and participative levels are required to plan and implement actions in a coordinated way (Wallace et al, 2008). This integration is the basis for multi spectral approaches to ensure that planned goals are achieved and actions converge to solve environmental, water and health problems.

In Tanzania, according to the 2002 census report, there was 36,105,808 people, after ten years (i.e. 2012) the population increased to 49,082,997 people and by the year 2017 the population increased to 57,310,019 people (NBS, 2002; NBS, 2012; NBS, 2017). In order to meet the future water demand, ministry responsible will need to tap their water supply either from a deep ground or surface sources situating a far

distance away from the urban area (Chala, 2017).

2.5 Conceptual Framework

Effective participation of the community is a key determinant of good preparation and implementation of projects in local government authorities that could influence the completion and sustainability of several community projects. There were factors that were independent variables and that can influence effective participation of the community toward water supply projects. Some of these factors were donors' responsibilities, development policies, and effectiveness of water committees, technical capability and available resources. Besides independent variables, there were other factors like intermediate variables which include; approaches used by the implementers (Donors), consideration of community's preference and community awareness. These mediating variables could help to determine the dependent variables which are the completion and sustainability of the water supply project.

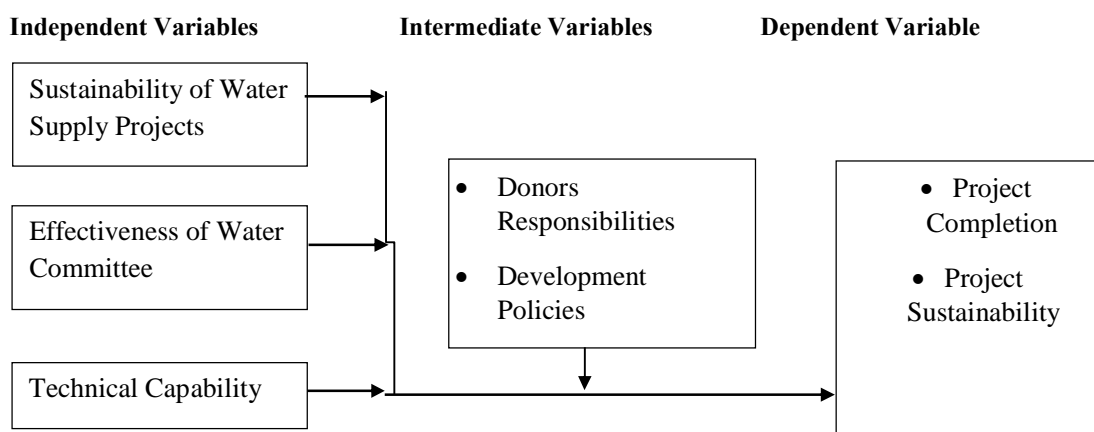


Figure 2.1: Conceptual Framework for Community Participation

Source: Author's Construction, 2019

2.6 Research Gap

Community participation is not being considered as a crucial thing in the water

supply projects for their efficiency, effectiveness and sustainability which have led to poor and failure of water projects in meeting community demands. This study assessed community participation in water supply projects and addresses the need for community participation at each stage of the project so as to solve the needs of the community.

CHAPTER THREE

METHODOLOGY

3.1 Overview

This chapter elaborates research design which the study used, area of the study, sampling procedures and sample size, sources of data, methods of data collection, data analysis and presentation plan, also validity and reliability.

3.2 Research Design

This study used the cross-sectional research design due to limited time and resources. This allowed the researcher to collect data at once for intensive analysis.

3.3 Area of the Study

The study was carried out at Tumbi ward in Kibaha city council. This is due to the fact that there was a water project known as Water Supply Improvement in Coast Region under the Government of Japan, the Japan International Cooperation Agency (JICA) to help in extending clean water services to the community in 2004 to 2005.

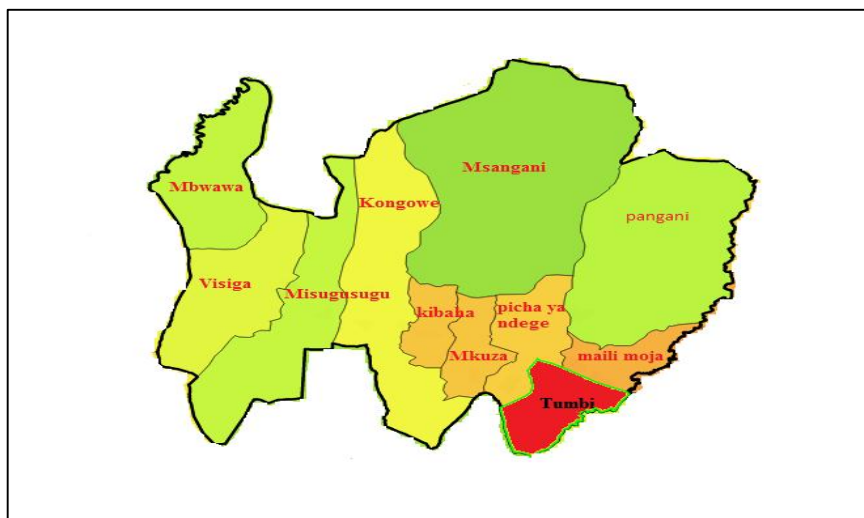


Figure 2.2: Tumbi Ward Location
Source: citypopulation.de, (2019)

3.4 Target Population

According to Grove (1997) target population is the group of elements from which researcher expects to draw conclusion about the research topic. The target population for this research involved 2526 households in Tumbi ward. Due to cost effectiveness and time savings, research studied sample of the population.

3.5 Sampling Unit

For this study the sampling unit was the household heads from Tumbi ward.

3.5.1 Sample Size

The number of sample size for the respondents were calculated by using the Yamane's (1967) formula which is; $n = \frac{N}{1 + N(e)^2}$

Where;

n = Sample size estimation

N = Population size of the sample frame

N = 2526 Household heads

e = Error of estimation

e = 10% (0.1)

Therefore;

$$n = \frac{2526}{1 + 2526(0.1)^2}$$

$$n = \frac{2526}{1 + 2526(0.01)}$$

$$n = \frac{2526}{1 + 25.26}$$

$$n = \frac{2526}{26.26}$$

$$n = 96$$

Thus, the study collected information from 96 respondents. Since household heads were not enough to provide information on community participation in water supply projects, the study included ward and village officers, and members of water project committee. So, the study included 48 heads of households with water supply, 40 heads of households with no water supply, 1 ward executive officer, 1 village executive officer, and 6 members of water project committee.

3.5.2 Sampling Procedures

For this study the researcher used stratified random and purposive sampling procedures.

3.5.2.1 Stratified Random Sampling

Stratified random sampling allowed the researcher to divide the population into subpopulation then select random elements from each subpopulation. This procedure produces a gain in precision in the estimates of characteristics of the whole population (Kothari, 2009). In this study researcher divided population into two groups, households with water supply and households with no water supply. Then 48 households with water supply and 40 households with no water supply were randomly selected for collecting information concerning community participation in water projects.

3.5.2.2 Purposive Sampling

Purposive sampling is the technique in which researcher purposefully selects some elements for collecting information since the researcher believes that the selected elements contain many and important information. This procedure helped the

researcher to get many and important information for the study. The researcher selected 1 ward executive officer and 1 village executive officer and 6 members of water project committee for collecting information concerning community participation in water project.

3.6 Types of Data and Sources

3.6.1 Primary Data

These are data which were collected afresh and for the first time, and thus happened to be original in character. These data were collected from sampled heads of households, ward executive officer, village executive officer, and chairman of water project committee. In this study primary data were collected by using data collection tools namely questionnaire and tape recorder.

3.6.2 Secondary Data

These were data acquired from various documents like academic journals, books, project reports and reports from Village Executive Officer (VEO) and Ward Executive Officers (WEO). The purpose of the secondary data is to generate more information which the researcher used to make logical generalizations of the first-hand data collected. However, there was limited data in relation to the topic particularly in Tumbi ward.

3.7 Data Collection Methods

3.7.1 Structured Interview

This method allowed the researcher to ask prepared questions concerning community participation in water project generally in face-to-face contact heads of

households, ward executive officer and. The questionnaires were used as a tool in this case.

3.7.2 Observation

This tool allowed the researcher to see the real situation in the area about the project through observing the physical structures of water supply project. The observation checklist was used as a tool for collecting the data.

3.7.3 Focus Group Discussions

The researcher conducted FDGs by combined together village executive officer, and six members of water project committee. The discussion focused on the community participation in water projects. The researcher used a notebook and mobile phone to take notes and record audio conversations respectively. Also, the tool for this was focus group discussion guide.

3.8 Data Processing and Analysis

3.8.1 Data Processing

The Statistical Package for Social Sciences (SPSS) for Windows and Microsoft Spreadsheet (Microsoft Excel) used to enter code, summarize and analyse the collected quantitative and quantitative data.

3.8.2 Data Analysis

Both qualitative and quantitative data analysis techniques were used in this study. Quantitative data were analysed whereby frequencies, means, and standard deviation were generated. The analysed data were presented through tables, and statements.

The data collected from the focus group discussions and interviews were analysed through content analysis so as to determine the frequencies of information. The data were analysed with respect to research objectives.

3.9 Validity and Reliability

3.9.1 Validity

According to Kothari (2009), validity means the instruments must measure what is supposed to be measured. The researcher checked validity through sampling procedures used to collect information, response rate and questionnaires and tape recording.

3.9.2 Reliability

Reliability refers to an extent in which a research instrument produces consistent result after repeated trial (Kothari, 2009). In this study, reliability means extent to which questionnaire, focus group discussion and interview produced equivalent results when measured at different place in different time.

3.10 Ethical Consideration

In the study the ethical issues were considered, firstly by acquiring permission to undertake the research at the site through requesting for clearance letter from university and ward government. Secondly, by ensuring that the respondents are participating in the study on their own will, assured them that the information they provided were confidential and anonymous.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Overview

This chapter presents the findings and discussion based on the objectives of the study.

4.2 Socio-Economic Characteristics of the Respondents

A Socio-economic characteristic of the respondents was important in this study to understand their gender and age, education level, main occupation, main source of water.

4.2.1 Age of Respondents

The study findings reveal that no respondent was below 26 years. This reveals that head of households, ward executive officer, village executive officer and members of water project committee were matured enough and are in a good position to make decision and work for better villages development.

Table 4.1: Age of Respondents

Age	Frequency	Valid Percent
18-25 years	0	0
26-35 years	15	16.7
36-45 years	45	50.0
46-55 years	23	25.0
Above 55 years	7	8.3
Total	90	100

Source: Field Data (2019)

4.2.2 Gender of Respondents

From the findings, it is evident that 66.7 percent of respondents were male, while

33.3 percent were female. This indicates that many village dwellers were male. This implies that there was high supply of manpower hence influence government to make them participate in the water supply projects.

4.2.3 Education Level

The study found that in the village there is no degree holder but only 16.7 percent of villagers were never attended to school. This reveal that majority of respondents are educated hence they are in good position of making plan, decisions, and monitoring of the water supply project.

Table 4.2: Education Level of Respondents

Education Level	Frequency	Valid Percent
Never attended school	15	16.7
Primary level	27	33.3
Secondary level	23	25.0
Certificate level	7	8.3
Diploma holder	15	16.7
Degree holder	0	0
Total	90	100

Source: Field Data (2019)

4.2.4 Main Occupation of Respondents

The study findings show that 50.0 percent of respondents were farmers, 33.3 percent were entrepreneurs, while 16.7 percent were civil servants. Due to the nature of the village, majority of villagers were engaged in agriculture, hence they are more available for participation in water supply project.

4.2.5 Main Source of Water

The result found that only 8.3 percent of villagers do not depend on pipe water, they depend on spring water as their main source of water. This show that water supply project reached many households.

Table 4.3: Main Source of Water of Respondents

Source of Water	Frequency	Valid Percent
Spring water	7	8.3
Pipe water	83	91.7
Total	90	100

Source: Field Data (2019)

4.3 Community Participation in Water Supply Project

The study results showed that few villagers (16.7 percent) didnot participate in any stage of the water supply project. The results continued to show that few villagers participated in the stage of designing the project, while in the implementation stage many villagers participated since they provided resources such as labour and financial resources. In the monitoring and evaluation stage, few villagers participated since it involved village water committee.

Table 4.4: Community Participation in Water Supply Project

	Frequency	Valid Percent
Yes	75	83.3
No	15	16.7
Total	90	100

Source: Field Data (2019)

The findings are similar with Gwamaka (2017) study which showed that majority of the respondents were not involved in the designing the project stage. Also, the results are supported by Top-down management theory which stated that decisions

of planning and designing the project are made by government then implementation stage is done by community. Lacking strong commitment from top level (government) decision makers, low level (community) behavioural changes will ultimately lose the momentum (URT, 2007). In addition, the study findings revealed that majority of the respondents (58.3 percent) participate very good in the water supply project.

Table 4.5: Level of Participation

Level of Participation	Frequency	Valid Percent
Very good	53	58.3
Good	15	16.7
Average	7	8.3
Poor	15	16.7
Total	90	100

Source: Field Data (2019)

4.4 Sustainability of Project after Donors' Withdrawal

The study wanted to know the sustainability of the project after donors' withdrawal. The results reveal that community participation in monitoring stage of water project help its sustainability after donor withdrawal. This is because the community involved in oversees of all activities that contribute to the sustainability of the project such as credit collection, and safeguard the infrastructures of water supply.

Village executive officer said that;

“After the project implemented donors remove their hand. After water supply project implemented the projects remains in the hands of local government for three to four years before DAWASA control it. Local government was responsible to formulate water committee so as to look on all activities to ensure sustainability of the project”.

Additionally, the study findings indicated that 58.3 percent of respondents strongly

disagreed that community participation in policy making and implementation in water project supply is the fundamental factor for failure of the water project, while 41.7 percent were disagreed. Also, the results showed that 66.7 percent of the respondents agreed that government and non-government organization engaging communities in communal efforts as a mechanism for mobilizing community resources such as water, and labour were causes for success of the water supply project, while 33.3 percent strongly agreed.

Furthermore, the findings revealed that 50.0 percent of the respondents agreed that lack of sustainability stakeholders such as environmental protection, pressure groups, human rights groups or non-governmental organizations in the projects hindered water project sustainability, 41.7 percent strongly agreed while 8.3 percent were not sure. These findings are supported by Silvius et al. (2017) who found that when the community is participated in monitoring stage of water supply project, there is great chance of project to sustain. Additionally, Gwamaka (2017) in his study revealed that the only factors that can make the water supply project to survive longer is to involve community in all stages of water supply project and to integrate environment stakeholders pressure groups and human right groups.

4.5 Effectiveness of Water Committee in Running the Water Supply Project

The study revealed that in Tumbi ward there is water project committee. The Tumbi ward water project committee consists of six members (chairman, secretary, accountant and 3 members). One respondent said that;

“Yes, we have water project committee. Our water project committee consists of six members; all of them came from the

village. Water project committee was formulated in order to supervise and oversee all activities in the project since. It consists of chairman, secretary, accountant, and 3 members”.

Also, the study wanted to know which ways or methods were used to choose the committee members. About 100 percent of the respondents indicated that democratic election was used to choose the committee members. Some of respondents said that;

“Village government announced to the villagers to take application forms. District officer was responsible for collecting application forms and together with his cabinet they selected those who meet criteria. On 25th October 2015 on village meeting we selected water project committee by democratic election. The election was free and fair”.

The study was interested to know responsibilities of water project committee. From FGD, it was revealed that selected team of 5 members (3 water project committee members and 2 community member) has responsibility of supplying water bills and credit collection, safeguard water infrastructure, ensure the project reaches all households, and supervise and oversee all project's activities. One respondent said that;

“The selected team of 5 members is responsible for reading units of water used in each household, and supply water bills to the households. Also, water project committee collects money.”

Another respondent added that;

“The team selected safeguards water infrastructures. They report those who destroy water infrastructure to the village government. Also, they report to the village government those who connect water illegally.”

Table 4.6: Effectiveness of Water Project Committee

Response	Frequency	Percent
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Very good	60	66.7
Good	30	33.3
Total	90	100

Source: Field Data (2019)

The study further wanted to know rate of effectiveness of water project committee in running the water supply project. The finding revealed that the water project committee performed very good in running water project committee as shown in table 4.6.

In FDG it was also revealed that the water project committee performed their responsibilities very good. One respondent said that;

“Our water project committee perform their responsibilities very good because the water supply project started with 84 households, but as we speak now the water supply project has 243 users.”

Also, another respondent said that;

“Water project committee perform their responsibilities very good since till now the water supply project exists, they collect all credits. We have enough money to control the water supply project due to the good work of water project committee.”

Another respondent said that;

“They protect very well our water infrastructures. There is no illegal connection of water. So, they perform their responsibilities very good.”

The water project committee played significant role in ensuring the sustainability of water supply project. Also, Edmund (2012) in his study founded that a much more successful way to ensuring water project improvement and sustainability is to formulate water project committee so as to obtain serious judgement and evaluation.

Furthermore, according to TASAF (2005) water project committee is the main component of water project sustainability since the water project committee keeping records of project expenditures and revenues.

The water project committee represent community in communication with the donors and stakeholders, and unify community contribution both labour and money (TASAF, 2005). Assembling meetings with community, local government, and stakeholders to discuss and agree on issues and problems and updating the community on regular basis on the decisions reached (Muchiri, 2014). Sustainability of water supply project after donor withdrawal depends much on effectiveness of the water project committee.

4.6 Technical Capabilities of Project after Donors' Withdrawal

The study was interested to know if the village is capable technically and financially to run the project after implementation of the project and donors' withdrawal. First, the study wanted to know if the same quantity of water flows since the project started. The results revealed that 91.7 percent of the respondents said that the same quantity of water flows all the time since the project started, while 8.3 percent said no. Also, in FDGs the study revealed that the same quantity of water flows all the time since the project started. One respondent had the following to say;

“The same quantity of water flows all the time since the project started unless when the leakage or problem in water infrastructure occurs.”

Additionally, the study was interested to know the technology used to ensure water was supplied at the same quantity. FDGs indicate that the village government

together with water project committee constructed artificial well which can store 30000 litres of water, which ensured that the project supplied water at the same quantity all the time. Lastly, the study wanted to know if the village get assistance in case there is breakdown or problem in the water supply system. The respondents revealed that they do not get any assistance in case there is problem in water supply systems. One of respondent revealed that;

“If there is leakage, breakdown or any problem in the water infrastructures, we use the money collected from users to buy new equipments. The money collected are enough to run the project.”

Furthermore, another respondent revealed that;

The village is capable technically to run the water supply project. Some villagers were trained by donors to repair and connect water supply system. So, if there is a problem in water supply system, trained villagers together with ward water engineer solve the problem.

The findings revealed that the village is capable technically and financially to run the project after donor withdrawal. This is due to the fact that technical and financial capability is essential for project sustainability. The findings are similar to study conducted by Chala (2011) which found that key factor for water project sustainability is technical and financial capability since it enables village to construct, operate and manage a technical solution.

The survey conducted by NWP (2008) revealed that to training community especially on technical, financial and management issues is significant for the sustainability of water supply project since training build up community capacity on manage, safeguard and repair the water supply infrastructures. Furthermore, Sei

(2016) in his study revealed that there is a great chance of water supply project to not sustain when there is poor management of these water project resources, insufficient water project operation and maintenance skills, as well as poor money collection from beneficiaries.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

This chapter presents the summary of the study, conclusion of the study, recommendations made due to study findings, and recommendation for further studies.

5.2 Summary of the Key Findings of the Study

The main objective of the study was to assess community participation in water supply projects, specifically in Tumbi ward in Kibaha Town District Council. The main objective was supported by three specific objectives namely to examine the sustainability of the project after implementation and donors' withdrawal, to assess the effectiveness of water committee in running the water supply project, and to examine technical capabilities of the project after implementation and donors' withdrawal.

To meet objectives of the study, the study involved 96 respondents including 48 head of households with water supply, 45 head of households with no water supply, 1 ward executive officer, 1 village executive officer, 1 chairman of water project committee. The study used primary and secondary data whereby structured interviews, observation, focus group discussion, and documentary review were used to collect data. The study findings indicated that the level of community participation in Tumbi water project was high in the implementation stage since community members provided labour and financial resources, while in designing, monitoring and evaluation stages the community participation was low.

The results indicated that 100 percent of respondents agreed that community participation in policy making and implementation in water project supply is the fundamental factor for sustainability of the water project. Additionally, the findings indicated that 100 percent of the respondents agreed that government and non-government organization engaging communities in communal efforts as a mechanism for mobilizing community resources such as water, and labour led to success of the water supply project.

Lastly, the findings revealed that 91.7 percent of the respondents agreed that lack of sustainability stakeholders such as environmental protection, pressure groups, human rights groups or non-governmental organizations in the projects hindered water project sustainability, while 8.3 percent were not sure. Also, the study reveals that to ensure the sustainability of water supply project water project committee was formulated, and the democratic election was used to obtain those members. The study findings showed that 66.7 percent of respondents said that water project committee performed their responsibility of supplying water bills and credit collection, safeguard water infrastructure, ensure project reach all households, and supervise all project's activities very good, while 33.3 percent said they performed good.

Lastly, the results revealed that 91.7 percent of the respondents said that the same quantity of water flows all the time since project started, while 8.3 percent said no. The same quantity of water flow since there was artificial well which could store 30000 litres of water. Also, the findings showed that the village was capable enough technically and financially to run the water project. They collect enough money

which is used to run day to day activities of project. Also, some of villagers were trained on how to repair and connect water supply system.

5.3 Recommendations of the Study

Based on summary and key findings of the study, the study makes the following recommendations:

- i. Local government should involve community more in designing, monitoring and evaluation of the water supply project.
- ii. Since water supply project leads to the improvement of other developmental projects, especially health and education project; the government should encourage donors, non-government organizations, and stakeholders to be involved in water supply projects.
- iii. The government should provide subsidies to the manufacturers of equipments used in water supply like pipes, pumps, and mitres so that the cost of supplying water decreases. This will increase affordability to poor households.
- iv. Also, the study recommends that the village government should employ top-down and down-top approaches of community participation in the management of water supply project.

5.3 Recommendation for Further Studies

This study focused on the community participation in water supply projects, specifically in Tumbi ward in Kibaha Town District. More studies can be conducted in other parts of the Tanzania since Tumbi ward is too small to represent the total population of Tanzania. Community participation is not only the factor for achieving

water project sustainability, other studies can focus on political, economic and environmental factors since they also lead to the achieving project sustainability.

REFERENCES

- Abraham, A & Platteau, J. (2004). Participatory Development: *Journal of Public Economics*. 8(3), 375 ó 404.
- AfDB, (2003). Final Aide Memoire for the 3th Joint Water Sector Development Programme Supervision Mission (April 20-30, 2003), AfDB.
- Bagaka, O. (2008). *Fiscal Decentralization in Tanzania and the Growth of Government: The Constituency Development Fund*. De-Kalb Illinois: Northern Illinois University:
- Bailey, D. K (1998). *Methods of social science research*. London: The Free Press Collier Macmillan Publisher.
- Cumming, O. (2008). *Tackling the Silent Killer: The case for sanitation*. United States of America. Paper No. SBN: 978-92-95004-47-4.
- Douglas J. R. (2004). Water Supply and Distribution. University of Wisconsin-Madison. Milking Research and Instruction Lab. May 164, 2016Hilton Oak Brook Hills Resort and Conference CenterOak Brook, IL.
- Hawlett, D. & Nagu, J. (2001). Agriculture project planning in Tanzania IDM, Mzumbe and the United Kingdom Department for International Development. Morogoro, Tanzania.
- James, R., & Mdoe, N. (2009). Tanzania Rural Live Hood: Towards a More Enabling Institutional Environment. *Journal of Environment Studies*. 6(13): 10-17.
- John Roeder (2012) *Teachers Clearing house For Science and Society Education Newsletter*, 31(1), 1-10.
- Kothari, C. R (2004). *Research Methodology: Methods and Techniques* (Second

- Revised Edition). New Delhi: Wiley Eastern Limited.
- Management. *Physics and Chemistry of the Earth*. Washington DC. WB.
- Millennium Development Goal (MDG). Summit Report (2010).
- Muchiri, D. (2014). Influence of Community Participation in Project Management Processes on the Timely Completion of CDF Projects in Kanyekini Ward, Kenya. Kirinyaga, Kenya.
- Oxford Dictionary. (2019). Oxford Dictionary. Retrieved on 23rd March, 2019 from: <http://www.oxforddictionary.com>.
- Paul, B. (2012). *Community Participation in Development Projects in Washington DC: Annual Report*. Washington, DC: Government Printer.
- Reid, S. (2008). Community participation in rural events: the potential to development and utilize social capital, *Sport Management Review*, 15(1), 1-12
- Silvius, C., Kashaigili, J., Kadigi, R (2017). Towards an Integrated Water Resource
- Tadesse, A., Bosona, T. & Gebresenbet, G. (2013). Rural Water Supply Management and Sustainability: The Case of Adama Area, *Ethiopia-Journal of Water*, 5(2), 208-221.
- Tanzania Demographic and Health Survey (2004). Tanzania Demographic and Health Survey research in National Bureau of Statistics at Dar es Salaam, Tanzania.
- United Republic Tanzania, (2006). 2002 Population and Housing census, VOL IV, Mbeya District Profile, National Bureau of Statistics, Dar es Salaam, Tanzania.
- Wallace, A., Ibrahim, N., Saad, A., & Abu El-Ela, H. (2008). Improving the Role of

Rural Women in Health and Environmental Issues. *International Journal of Environmental Health Research*, 16 (2). 133-144.

Waweru R. (2015). Factors Which Promote Community Participation in the Community Driven Development Approach; *International Journal of Humanities & Social Science Studies*, (IJHSSS), 1(5), 13-18.

World Bank, (1995). *The World Bank and Participation*. Washington, D.C.: The World Bank Operations Policy Department, 3pp.

APPENDICES

APPENDIX I: QUESTIONNAIRE

Dear Respondent,

Thank you in advance for giving your time to take part in this study. As a requirement for fulfillment of MA in Monitoring and Evaluation, I conduct a research on community participation in water supply projects: a case of tumbi ward in Kibaha town district council. I assure you that, the contents of this questionnaire are absolutely confidential, the answer will go only to the researcher and information identifying respondents will not be disclosed in any way. Please, I request that you participate in this study with free will and high degree of honest and openness.

PART I: PERSONAL CHARACTERISTICS

(Put a tick in appropriate answer)

1. Gender

1) Male ☐ 2) Female ☐

2. Age

1) 18 to 25 years ☐ 2) 26 to 35 years ☐ 3) 36 to 45 years ☐

4) 46 to 55 years ☐ 5) Above 55 ☐

3. Marital status

1) Single ☐ 2) Married ☐

4) Divorced ☐ 5) Widowed ☐

4. Education level

1) Never Attended School ☐ 2) Primary Level ☐

3) Secondary Level ☐ 4) Certificate Holder ☐

5)Diploma Holder

☐ 6)Degree Holder

7)Masters Holder

☐ 8)PHD Holder☐

5. Your main occupation

1)Farmer

☐

2)Teacher

☐

3)Civil Servant

☐

4)Entrepreneur

☐

3)Others, Specify.....

6. For how long have you been living in this village

1)Below 2 years

☐

2)2 ó 5 years

☐

3)6 ó 9 years

☐

4)Above 9 years

☐

7. What is your main source of water?

1)River Water

☐

2)Well Water

☐

3)Spring Water

☐

4)Pipe Water

☐

PART II: SUSTAINABILITY OF THE WATER PROJECT AFTER IMPLEMENTATION AND DONORS WITHDRAWAL

8. Have you ever participated in design, implementation, monitoring and evaluation of water supply projects in your village?

1) Yes

☐

2)No

☐

9. How do you rate level of your participation?

1)Very Good

☐

2)Good

☐

3)Average

☐

4)Poor

☐

5)Very Poor

☐

10. Who is responsible to monitor the water project after the donor withdrawal?

- 1) The Community ☐ 2) Village Government ☐
 3) Central Government ☐

11. This section seeks your opinion on the sustainability of the water project after implementation and donors' withdrawal. You are requested to respond to most of the items in the subsequent sections using the following scale by ticking the appropriate option.

1. Strongly Disagree 2. Disagree 3. Not Sure 4. Agree 5. Strongly Agree

No	Statement	1	2	3	4	5
1	Community participation in policy making and implementation in water project supply is the fundamental factor for failure of the water project.					
2	Government and non-government organization engaging communities in communal efforts as a mechanism for mobilizing community resources such as water, and labor cause for success of the water project.					
3	Lacking of sustainability stakeholders such as environmental protection, pressure groups, human rights groups or non-governmental organizations in the projects hindered water project sustainability.					

PART III: EFFECTIVENESS OF WATER COMMITTEE IN RUNNING THE WATER SUPPLY PROJECT

12. Is there any water project committee in this village?

- 1) Yes ☐ 2) No ☐

13. How many members in terms of the following?

- 1) Local Government..... 2) Religious Leader.....
 3) Leading Citizens..... 4) Individuals.....

14. Which ways or method used to choose the committee members?

- 1) Democratic Election ☐ 2) Appointment ☐
 3) Others, Specify.....

15. What are the responsibilities of the community water project committee?

.....

16. How do you rate effectiveness of water committee in running the water supply project?

- 1)Very Good ☐ 2)Good ☐ 3)Average ☐
 4)Poor ☐ 5)Very Poor ☐

PART IV: TECHNICAL CAPABILITIES OF THE PROJECT AFTER IMPLEMENTATION AND DONORS WITHDRAWAL

17. Is the quantity of water the same as the time project started?

- 1) Yes ☐ 2)No ☐

18. Which technology used to ensure water supplied at the same quantity?

.....

19. Do you have the capacity to maintain the project especially after donorsø

withdrawal?

1) Yes

☐

2)No

☐

20. Do you get assistance in case there is break down in the water supply system? (*Answer if Qn. 19 answer is No*)

1) Yes

☐

2)No

☐

21. Does the local government contribute any user fees to cover maintenance cost?

1) Yes

☐

2)No

☐

If Yes, How much.....

22. Are there trained experts in the area who can service the water project?

1) Yes

☐

2)No

☐

THANK YOU VERY MUCH